Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Previously Presented) An apparatus for 3D shape measurement, comprising:

a laser projecting device including a line-laser projector and LEDs attached to the line-laser projector as markers for estimating the position and orientation of the laser projecting device;

an image capturing device for capturing the laser projecting device and a target object; and

a computer for detecting a projected line-laser light and LEDs from a captured image and processing the image to compute a 3D shape measurement.

2. (Previously Presented) The apparatus for 3D shape measurement defined in claim 1, further comprising a display device for displaying the 3D shape captured by the apparatus.

3. (Currently Amended) A method for 3D measurement using the apparatus of claim 1, the method comprising:

projecting a line-laser to an object, the apparatus having LEDs attached to the line-laser projector for estimating the position and orientation of the laser projecting device;

capturing projected line-laser light and the LEDs at the same time using the image capturing device; ~~and~~

calculating, using the computer, a 3D shape of the object from the captured image using a triangulation method~~.~~; and

outputting the calculated 3D shape.

4. (Previously Presented) A method and a system for displaying information, comprising:

means for processing the steps defined in claim 3 in real-time; and

means for displaying the 3D shape acquired by the previously defined steps on a display device.

5. (Previously Presented) A method for improving 3D shape using a triangulation method, the method comprising:

selecting 3D points precisely measured by other methods or 3D points with high accuracy from the 3D shape acquired by the method of claim 3 as known 3D points;

calculating a difference between the 3D depth value of a known 3D point and the 3D depth value estimated by the method of claim 3 as an error function; and

correcting the position and orientation of the laser projecting device by minimizing the error function.